Christopher Krasniak, PhD

cskrasniak@gmail.com
(315) 951-0665
New Hampshire, USA
github.com/cskrasniak
linkedin.com/in/christopher-krasniak/
Google Scholar: Christopher S. Krasniak

Summary

Researcher with five years of academic experience in applying statistical and data science methods to neuroscience. Excited to use these skills applied to biomedical, consumer product, or business optimization fields.

Skills

- Python scientific stack (5 years)
- Advanced statistical analyses (5 years)
- Git (2 years)
- Machine Learning (2 years)
- Technical writing and presentation (5 years)
- Lay audience communication (5 years)
- SQL (<1 year)
- Experimental design (7 years)

Experience

Cold Spring Harbor Laboratory – Graduate researcher — Cold Spring Harbor, NY

Imaging and manipulating mouse cortical decision-making | August 2016 to May 2022

- Recorded ~100Tb of imaging data of mouse neural activity during performance of a behavioral task
- Integrated an existing python pipeline for data cleaning and preprocessing with my own preprocessing code
- Used logistic regression, clustering, dimensionality reduction, and feature engineering to determine the role of cortical areas in a behavioral task
- Used standard and custom statistical tests to confirm findings

International Brain Laboratory – Researcher — Cold Spring Harbor, NY

Creating a standardized decision-making task for mice | April 2018 to April 2020

- Collaborated with a core group of 10 researchers in seven separate labs to develop a behavioral task in mice that is reproducible across labs and uses standardized hardware and software
- Co-authored the detailed protocols for building the apparatus and performing the experiments
- Co-authored a paper detailing the scientific findings from this behavior in *eLife*

Recording neural activity across the mouse brain | May 2019 to April 2022

- Performed challenging simultaneous recordings of behavioral data, behavioral videos, and single cell neural activity in contribution to the largest known database of single-cell neural activity

Colby College – Teaching assistant — Waterville, Me

Research Methods and Statistics in Psychology | Fall 2014

- Assisted in design and performance of experiments and statistical tests
- Answered statistical questions during the lab portion of the course

Woodsmen's team captain | September 2014 to May 2016

- Selected teams for competitions, optimizing team performance while minimizing inter-personal conflict
- Organized and ran team practices, including teaching and mentoring new members

University of California San Francisco – NSF REU Research Assistant San Francisco, CA

Epileptic zebrafish heart monitoring | June to August 2015

- Developed a protocol for visual recording of heart rate in zebrafish larvae as part of an anti-epileptic drug screening platform
- Used this protocol to assess the cardio-toxicity of several anti-epileptic drug candidates

Education

Doctor of Philosophy: Neuroscience
Cold Spring Harbor Laboratory
Mesoscale imaging and inhibition in a standardized decision-making task in mice
August 2016 to May 2022

Bachelor of Arts: Biology and Psychology
Colby College, Waterville Me
Phi Beta Kappa, Summa Cum Laude, William D. Adams Presidential Scholar
August 2012 to May 2016

Publications

The International Brain Lab et al. 2021. Standardized and reproducible measurement of decision-making in mice. *eLife*. 10: e63711. DOI: 10.7554/eLife.63711

Krasniak, C. S. and Ahmad, S. T. 2016. The Role of CHMP2BIntron5 Mutation in Autophagy and Frontotemporal Dementia. *Brain Research*. 1649(Pt B):151-157.

Lee, D., Zheng, X., Shigemori, K., Krasniak, C. S., Liu, J.B., Tang, C., Kavaler, J., Ahmad, S.T. 2019. Expression of mutant CHMP2B linked to neurodegeneration in humans disrupts circadian rhythms in *Drosophila*. *FASEB Bioadvances.* DOI: 10.1096/fba.2019-00042

Grone, B. P., Marchese, M., Hamling, K. R., Kumar, M. G., Krasniak, C. S., Sicca, F., Santorelli, F. M., Patel, M., & Baraban, S. C. 2016. Syntaxin-Binding Protein 1 (STXBP1) Mutant Zebrafish to Model Human Neurodevelopmental Disease. *PLOS One*. 11(3): e0151148.

Griffin, A., Krasniak C., Baraban, S. C. 2016. Advancing Epilepsy Research Through Personalized Genetic Zebrafish Models. *Progress in Brain Research*. 226:195-207.

Personal

Baking, hiking and canoeing, wood working, hockey and frisbee, Nordic and downhill skiing. Pretty much anything else that gets me outdoors in New England.